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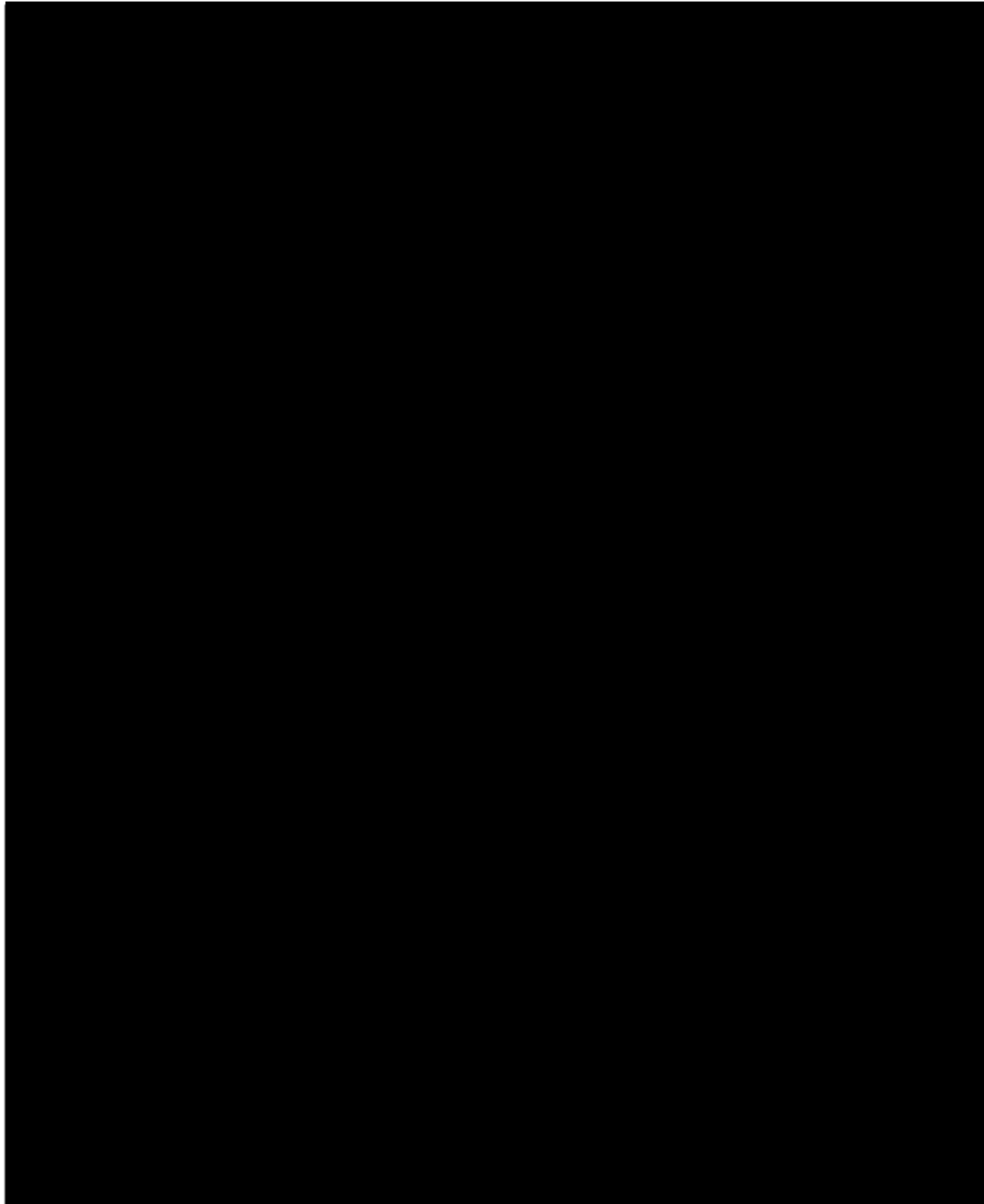
ORIGINAL

Document Description

Focus Notes L07-292

Date

7-19-07



Final

**FOCUS REPORT  
New Chemicals Program**

**PART I: BACKGROUND**

Written By: KMB

FOCUS DATE: 7/9/2007

FOCUS CHAIR: D. Jones

COMPANY: Tracerco

CASE NUMBER(S): L07-0292 through and

**PART II: SAT RESULTS**

HEALTH: 1-2 ECOTOX: 1 OCCUPATIONAL EXPOSURE: 2-3A CONSUMER EXPOSURE: - ENVIRONMENTAL RELEASES:

Additional SAT  
Information:

**PART III: OTHER FACTORS**

- a. PRODUCTION VOLUME: 500 kg/yr
- b. PROD VOL OTHER: \*\*\*Binding Option Marked\*\*\*  
\*\*\*LVE Assessed at Production Volume\*\*\*
- c. USE: Tracer chemical to measure flow in deep oil-bearing strata
- d. REGULATORY HISTORY: L07-0271 (F) ☐ GRANTED WITH CONDITION

e. TEST DATA:

f. IMPORTED ☒ MANUFACTURED ☐ BOTH ☐

g. MSDS: ☒

h. CATEGORY: Neutral Organics CATEGORY 2

**PART IV: SUMMARY OF SAT ASSESSMENT**

CASE NUMBERS: L07-0290 to L07-0330

FATE: MW162 to 216

solids with mp for L070271 (F) = 126 °C (M)

log Kow for the free acid = 1.8 to 2.9 (ClogP), 1.2 to 2.8 (EPI), 1.59 to 3.10 (M)

log Kow for L070271 = -5.87 with pH? (HPLC)

log Kow for L070296 = -2.11 with pH? (HPLC)

log Kow for L070297 = -3.62 with pH? (HPLC)

log Kow for L070298 = -1.64 with pH? (HPLC)

S > 200 mg/L to > 10 g/L at 20 °C (P)

vp < 1.0E-6 mm Hg or torr at 25 °C (P)

bp = 460 °C (P)

H for the covalent ion pair = 1.2E-7 to 9.5E-7 (P)

log Koc for the covalent ion pair = 1.4 to 2.0 (P)

log fish BCF = 0.50 (P)



sorption to sludge = low (P)

test data for L070271 for aerobic biodegradation in seawater at 20 C, via closed bottle (OECD306) were:

time biodegradation  
(d) (percent)

5 0  
14 2  
28 63

test data for aerobic biodegradation for the [REDACTED] of L070299 from [REDACTED] were:  
15% biodegradation in 28 d, thus, not readily biodegradable via CO2 evolution in modified Sturm test (OECD301B); if test result is due solely to ester hydrolysis and degradation of the [REDACTED], then removal via POTW of the parent would be >= 90% but notifier did not measure degradation products;

POTW removal = 0% to 90 via sorption and possible biodegradation  
time for complete ultimate aerobic biodegradation = weeks to => months  
sorption to soils and sediments = low (P)  
PBT Potential: P2B1T2 to P3B1T2

HEALTH: Absorption nil thru skin based on physical/chemical properties; good thru lungs based on analogs; and good thru the GI tract based on analogs;

test data for the [REDACTED] of L070299, [REDACTED], were:  
rat acute oral LD50 = 800 mg/kg with toxic signs; LD100 = 2 g/kg, LD0 = 300 mg/kg;  
rat acute dermal LD0 = 2.0 g/kg with no toxic signs;  
slight and transient (2 d) skin irritation in rabbits;  
slight and transient (1 d) eye irritation in rabbits;  
Ames test was negative;  
E. coli test was negative;  
chromosome aberration test with V79 cells was positive with activation, but negative without activation;  
no skin sensitization in guinea pigs (M&K);  
rat 28-d subchronic oral-gavage with doses = 1000, 300, and 100 mg/kg/d with NOAEL = 100 mg/kg/d and LOEL = 300 mg/kg/d based on salivation and increased water consumption; effects at 1000 mg/kg/d were slight to severe salivation, unsteady gait, motor activity significantly decreased and effects to the liver and kidneys;

concern for asthma and developmental toxicity based on data for benzoic acid, note: the mechanism for the asthma is unknown;

concern for possible mutagenicity, liver toxicity, and kidney toxicity based on data for [REDACTED] which was the [REDACTED] of L070299, however, the [REDACTED] will have some acylating activity which is absent in the acid, thus, the acid will be less toxic than the [REDACTED];

low to moderate concern for toxicity

ECOTOX: Predicted (P) and measured (M) toxicity values in mg/L (ppm) are:

fish 96-h LC50 > 100.0 P  
SW fish 96-h LC50 = 440.0 M S,N L070271  
SW fish 96-h LC50 > 320.0 M S,N L070290  
SW fish 96-h LC50 > 320.0 M S,N L070291  
daphnid 48-h LC50 > 100.0 P  
SW invert Ac ton 48-h LC50 = 2830.0 M S,N L070271  
SW invert Ac ton 48-h LC50 = 1500.0 M S,N L070290  
SW invert Ac ton 48-h LC50 = 430.0 M S,N L070291

SW invert Ac ton 48-h LC50 = 480.0 M S,N L070292  
 SW invert Ac ton 48-h LC50 = 270.0 M S,N L070293  
 SW invert Ac ton 48-h LC50 = 250.0 M S,N L070294  
 SW invert Ac ton 48-h LC50 = 250.0 M S,N L070295  
 SW invert Ac ton 48-h LC50 = 300.0 M S,N L070296  
 SW invert Ac ton 48-h LC50 = 430.0 M S,N L070297  
 SW invert Ac ton 48-h LC50 = 440.0 M S,N L070298  
 SW invert Ac ton 48-h LC50 = 170.0 M S,N L070299  
 SW invert Ac ton 48-h LC50 = 130.0 M S,N L070300  
 green algal 96-h EC50 > 100.0 P  
 SW algae Sk cost 72-h EC50 c = 250.0 M S,N L070271  
 SW algae Sk cost 72-h EC50 r > 10000.0 M S,N L070290  
 SW algae Sk cost 72-h EC50 r = 430.0 M S,N L070291  
 SW algae Sk cost 72-h EC50 r = 660.0 M S,N L070292  
 SW algae Sk cost 72-h EC50 r = 2100.0 M S,N L070296  
 SW algae Sk cost 72-h EC50 r = 1500.0 M S,N L070297  
 SW algae Sk cost 72-h EC50 r = 700.0 M S,N L070300  
 fish chronic value > 10.0 P  
 daphnid ChV > 10.0 P  
 algal ChV > 10.0 P  
 SW algae Sk cost ChV c = 100.0 M S,N L070271  
 SW algae Sk cost ChV r = 5600.0 M S,N L070290  
 SW algae Sk cost ChV r < 100.0 M S,N L070291  
 SW algae Sk cost ChV r = 320.0 M S,N L070292  
 SW algae Sk cost ChV r = 1000.0 M S,N L070296  
 SW algae Sk cost ChV r = 320.0 M S,N L070297  
 SW algae Sk cost ChV r = 320.0 M S,N L070300

#### benthic

SW invert Coror vol 10-d LC50 = 6558.0 mg/kg DWT M S,N L070271  
 SW invert Coror vol 10-d NOEC = 470.0 mg/kg DWT M S,N L070271  
  
 SW invert Coror vol 10-d LC50 = 7300.0 mg/kg DWT M S,N L070290  
 SW invert Coror vol 10-d NOEC = 1400.0 mg/kg DWT M S,N L070290  
  
 SW invert Coror vol 10-d LC50 = 3800.0 mg/kg DWT M S,N L070291  
 SW invert Coror vol 10-d NOEC = 150.0 mg/kg DWT M S,N L070291  
  
 SW invert Coror vol 10-d LC50 = 6700.0 mg/kg DWT M S,N L070292  
 SW invert Coror vol 10-d NOEC = 1400.0 mg/kg DWT M S,N L070292  
  
 SW invert Coror vol 10-d LC50 = 410.0 mg/kg DWT M S,N L070296  
 SW invert Coror vol 10-d NOEC = 130.0 mg/kg DWT M S,N L070296  
  
 SW invert Coror vol 10-d LC50 = 330.0 mg/kg DWT M S,N L070297  
 SW invert Coror vol 10-d NOEC = 160.0 mg/kg DWT M S,N L070297  
  
 SW invert Coror vol 10-d LC50 = 280.0 mg/kg DWT M S,N L070300  
 SW invert Coror vol 10-d NOEC = 16.0 mg/kg DWT M S,N L070300

Predictions are based on SARs for neutral organic chemicals with 10X less toxicity due to the substitution of the acid, or SARs for anionic surfactants-carboxylic acid-C4.Na; SAR chemical class = surfactant-anionic-F1 to F4 and CF3 benzene-COO.Na; MW162 to 216; solids with mp for L070271 (F) = 126 °C (M); log Kow for the free acid = 1.8 to 2.9 (ClogP), 1.2 to 2.8 (EPI), 1.59 to 3.10 (M); log Kow for L070271 = -5.87 with pH? (HPLC); S > 200 mg/L at 20 °C (P); pH7; effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150.0 mg/L as CaCO3; and TOC <2.0 mg/L;  
 low concern for toxicity  
 assessment factor = 10.0  
 concern concentration = 1.0 mg/L (ppm)

P2REC: forward to FOCUS with support.

## **PART V: RAD RISK RATIONALE: HUMAN HEALTH**

## **PART VI: SUMMARY OF EXPOSURE/RELEASE**

Proc:

1 site, 3 workers, 5 d/yr

Inhalation: Particulate:  $1.4 \times 10^2$  mg/d

Dermal: Not Required per SAT

Releases to Water 1: 1.0 kg/s/d, 5 d/yr

Releases to Water 2:  $5.0 \times 10^{-1}$  kg/s/d, 5 d/yr

OR Air OR Incineration OR Landfill

Releases to Water 3: 1.0 kg/s/d, 5 d/yr

OR Incineration OR Landfill

Fate: Releases to Water 1, 2, & 3 (0% Removal Efficiency)

SWC: 347.71 ppb

DW: LADD:  $8.16 \times 10^{-6}$  mg/kg/d, ADD:  $2.04 \times 10^{-5}$  mg/kg/d, ADR:  $1.74 \times 10^{-2}$  mg/kg/d

Fish: LADD:  $1.10 \times 10^{-7}$  mg/kg/d, ADD:  $2.76 \times 10^{-7}$  mg/kg/d, ADR:  $4.33 \times 10^{-4}$  mg/kg/d

>COC (1,000 ppb): No Exceedance

Use:

5 site, 15 workers, 350 d/yr

Inhalation: Negligible

Dermal: Not Required per SAT

Releases to Water:  $6.0 \times 10^{-1}$  kg/s/d, 1 d/yr

Releases to Incineration:  $4.8 \times 10^2$  kg/yr

Fate: Releases to Water (0% Removal Efficiency)

SWC: 83.45 ppb

DW: LADD:  $3.91 \times 10^{-7}$  mg/kg/d, ADD:  $9.79 \times 10^{-7}$  mg/kg/d, ADR:  $4.19 \times 10^{-3}$  mg/kg/d

Fish: LADD:  $5.30 \times 10^{-9}$  mg/kg/d, ADD:  $1.33 \times 10^{-8}$  mg/kg/d, ADR:  $1.04 \times 10^{-4}$  mg/kg/d

>COC (1,000 ppb): No Exceedance

## **PART VII: FOCUS DECISION AND RATIONALE**

### **DISPOSITION:**

**RATIONALE:** L07-0292 was given a final conditional grant based on binding to the production volume of 500 kg/yr. Potential risks to human health were addressed by adequate respiratory protection. The Inhalation Monitoring Criteria for the Pilot Program were met for inhalation exposures from processing. No Inhalation Monitoring is requested. Concerns for potential risks to the environment were low based on low toxicity.

P2REC: This case was nominated for P2 recognition based on its intended use to replace radionuclides tracers used to measure the flow rate in oil-bearing strata and to adjust their pumping rate to achieve desirable flow characteristics. Its use will result in a reduced handling of radioactive materials by both contractors and oil production employees, as well as lower release of radioactive materials into the environment. The Focus participants decided to forward this claim.

## **PART VIII: CCD DISPOSITION / DD**

CCD: